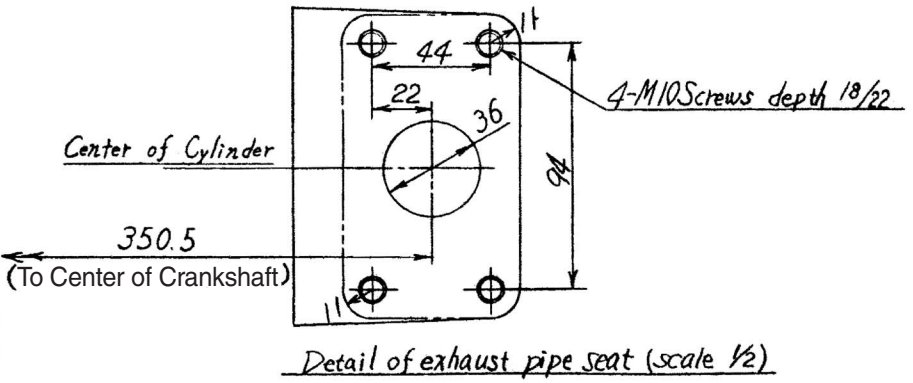


Engine Data	
Model	TS 190 R
Output (continuous rating)	KW 16 PS HP 16
Speed	Speed of Crankshaft rpm 2200 Speed of Driving Shaft rpm 2200
Max Output	KW 19 PS HP 19
Speed of Crankshaft at Max output	rpm 2200
No. of Cylinder	1
Rotation (View from flywheel side)	anti-clockwise
Rotation Direction (view from power take-off side)	↻
Dry Weight (about)	Kg 182



Thickness Dimensions (mm)	General Dimension Tolerance (Casting)			General Dimension Tolerance (Cutting)			Surface Roughness Classification (JIS)
	Classification of Nominal Dimensions	Sand Mold	Shell	Classification of Nominal Dimensions	Sand Mold	Shell	
Below 5	±1.0	±0.8	±0.1	Below 100	±1.5	±1.0	Symbol S(u)
Above 5 Below 10	±1.5	±1.0	±0.2	Above 100 Below 200	±2.0	±1.5	Below 0.8
Above 10 Below 20	±2.0	±1.5	±0.3	Above 200 Below 400	±3.0	±2.0	Below 1.5 ~ 6.3
Above 20 Below 30	±3.0	±2.0	±0.4	Above 400 Below 800	±4.0	±3.0	Below 12 ~ 25
Above 30 Below 40	±4.0	±3.0	±0.5	Above 800 Below 1600	±5.0	±4.0	Below 35 ~ 100
Angle (Cutting)	Below 10	±1'	±30'	Above 1600 Below 3150	±7.0	±6.0	Without symbol or -
	Above 10 Below 50	±30'	Outside	Above 2000 Below 4000	±2.0	±2.0	100 ~ 140
	Above 50 Below 100	±20'	Inside				
	Above 100	±10'					

Model: TS190 R Diesel Engine
Out Line

WEIGHT (RAW)	(± %)	HYDRAULIC TEST	kg / c/d	No. 1 Chief of Technology
WEIGHT (Precision %)	(± %)	PNEUMATIC TEST	kg / c/d	
CHIEF	DATE 57. 4. 20	MODEL TS 190 R	QTY 1	MANAGER
P.J. DESIGNER	SPECIALIST	NAME	TS 190 R Diesel Engine	No. 1 Chief of Technology
CHECKED	DRAWN	TRACED	NAME	SCALE 1/5 (1/2)
OUTLINE DRAWING				MATERIAL